File: IBM-1057

Docket No. AUS920010993US

Simon et al.

System and Method for Verifying Database Security
Across Multiple Platforms

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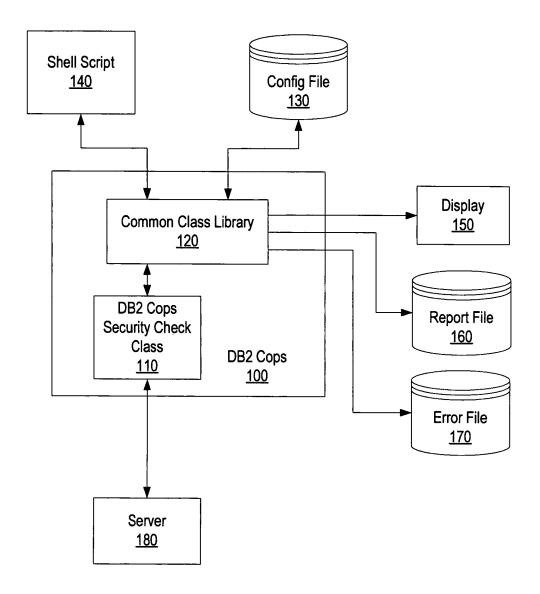
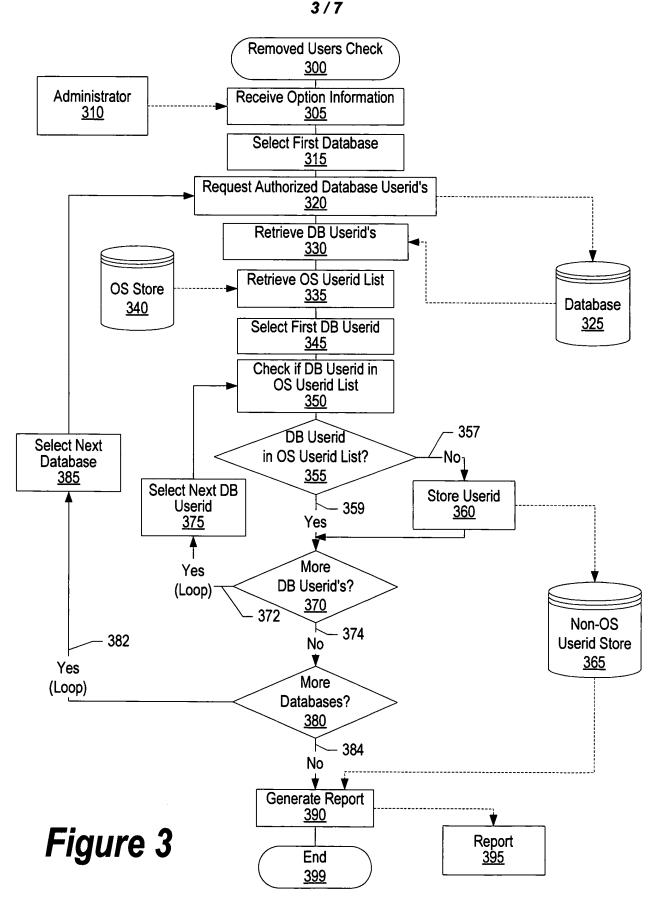ET420197679US

```
       ┌──────────────┐        ┌──────────────┐
       │ Shell Script │        │  Config File │
       │     140      │        │     130      │
       └──────────────┘        └──────────────┘

   ┌─────────────────────────────────────────┐      ┌──────────────┐
   │              ▲                ▲          │      │   Display    │
   │       ┌──────┴────────────────┴──────┐   │─────▶│     150      │
   │       │   Common Class Library       │   │      └──────────────┘
   │       │           120                │──────┐
   │       └──────────────────────────────┘   │  │   ┌──────────────┐
   │              ▲                            │  └──▶│ Report File  │
   │       ┌──────┴────────┐                   │      │     160      │
   │       │  DB2 Cops     │                   │      └──────────────┘
   │       │Security Check │                   │
   │       │   Class       │    DB2 Cops       │      ┌──────────────┐
   │       │    110        │      100          │─────▶│  Error File  │
   │       └───────────────┘                   │      │     170      │
   └──────────────┼────────────────────────────┘      └──────────────┘
                  ▼
         ┌──────────────┐
         │   Server     │
         │     180      │
         └──────────────┘
```

Figure 1

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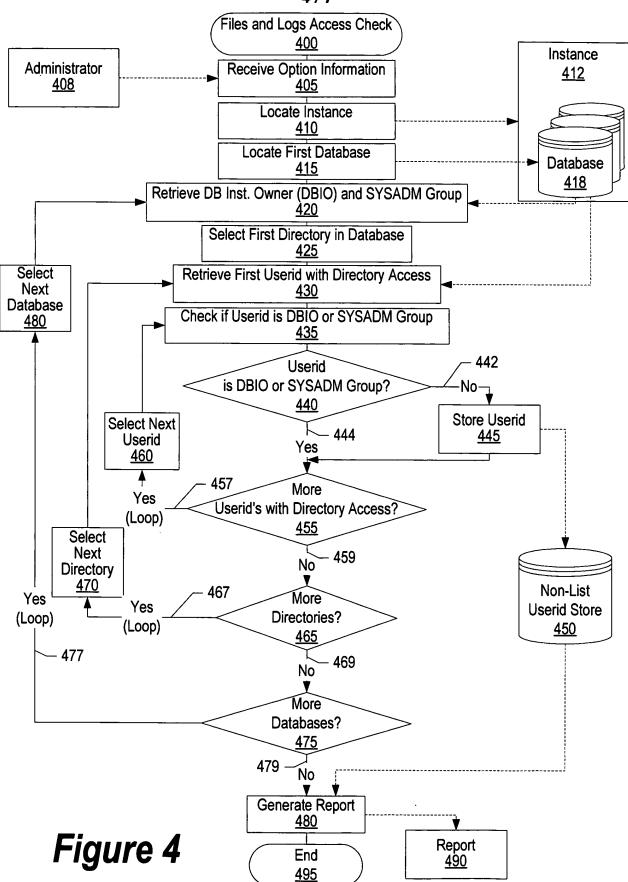Across Multiple Platforms
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Figure 2

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Removed Users Check
300

Administrator
310

Receive Option Information
305

Select First Database
315

Request Authorized Database Userid's
320

Retrieve DB Userid's
330

OS Store
340

Retrieve OS Userid List
335

Database
325

Select First DB Userid
345

Check if DB Userid in
OS Userid List
350

Select Next
Database
385

DB Userid
in OS Userid List?
355

357
No

Select Next DB
Userid
375

Store Userid
360

359
Yes

Yes
(Loop)

372

More
DB Userid's?
370

374
No

382

Non-OS
Userid Store
365

Yes
(Loop)

More
Databases?
380

384
No

Figure 3

Generate Report
390

Report
395

End
399

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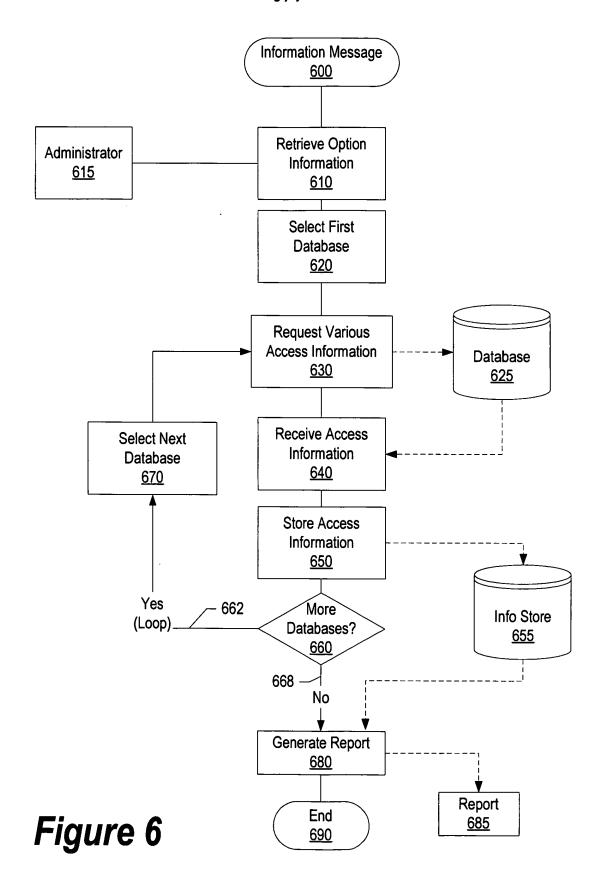System and Method for Verifying Database Security
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Files and Logs Access Check
400

Administrator
408

Receive Option Information
405

Instance
412

Locate Instance
410

Locate First Database
415

Database
418

Retrieve DB Inst. Owner (DBIO) and SYSADM Group
420

Select First Directory in Database
425

Select
Next
Database
480

Retrieve First Userid with Directory Access
430

Check if Userid is DBIO or SYSADM Group
435

Select Next
Userid
460

Userid
is DBIO or SYSADM Group?
440

442

No

444

Yes

Store Userid
445

457

Yes
(Loop)

More
Userid's with Directory Access?
455

459

No

Select
Next
Directory
470

467

Yes
(Loop)

More
Directories?
465

469

No

Non-List
Userid Store
450

Yes
(Loop)

477

More
Databases?
475

479

No

Generate Report
480

Figure 4

End
495

Report
490

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Backup Files and Logs Access Check
500

Administrator
508

Receive Option Information
505

Instance
512

Locate Instance
510

Locate First Backup Database
515

Backup
Database
518

Retrieve DB Inst. Owner (DBIO) and SYSMAINT Group
520

Select
Next
Backup
Database
580

Select First File in Database
525

Retrieve First Userid with Directory Access
530

Check if Userid is DBIO or SYSMAINT Group
535

Select Next
Userid
560

Userid
is DBIO or SYSMAINT Group?
540

542

No

544

Yes

Store Userid
545

557

Select
Next
Directory
570

Yes
(Loop)

More
Userid's with Directory Access?
555

559

No

Yes
(Loop)

567

More
Directories?
565

569

No

Yes
(Loop)

577

579

More
Databases?
575

No

Non-List
Userid Store
550

Generate Report
585

Figure 5

End
595

Report
590

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Figure 6

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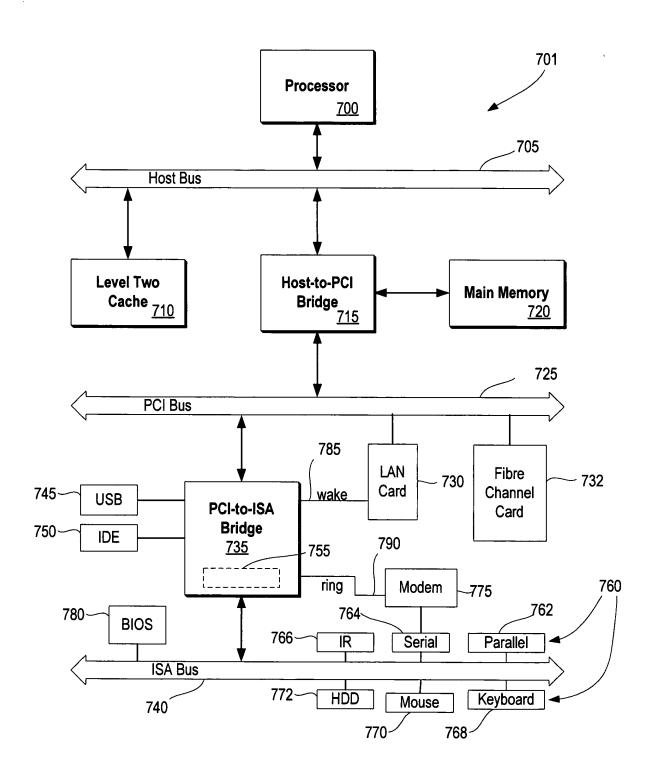System and Method for Verifying Database Security
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701

```
┌──────────────┐
│  Processor   │
│    700       │
└──────────────┘
        ↕
```

705

Host Bus

```
┌──────────────┐   ┌──────────────┐   ┌──────────────┐
│  Level Two   │   │ Host-to-PCI  │   │ Main Memory  │
│  Cache 710   │   │ Bridge  715  │   │    720       │
└──────────────┘   └──────────────┘   └──────────────┘
```

725

PCI Bus

```
745 ─ USB
750 ─ IDE
```

```
┌──────────────┐
│ PCI-to-ISA   │
│  Bridge      │
│   735        │
│ ┌─────────┐  │
│ └─────────┘  │
└──────────────┘
```

785 wake

```
┌────────┐
│  LAN   │ ─ 730
│  Card  │
└────────┘
```

```
┌──────────┐
│  Fibre   │ ─ 732
│ Channel  │
│  Card    │
└──────────┘
```

755

790

```
┌────────┐
│ Modem  │ ─ 775
└────────┘
```

ring

760

780 ─ BIOS

764

766 ─ IR   Serial   762 Parallel

ISA Bus

740

772 ─ HDD   Mouse   Keyboard

770   768

Figure 7